CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.10/NMSK/CSR-05/029d/CEMENT/2016-17 Date: 05.05.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. N.M. Shiva Kumar,** #7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.
*NAME OF THE WORK	:	Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.
*REFERENCE	:	EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	03.05.2016
PERIOD OF TESTING	:	03.05.2016 to 05.05.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	135 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

Civil-Tech Consultants & Engineers Bangalore

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⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

****

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Quality Manager

Radha
AE

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Job No.: CTCE/BBMP/W.No.10/NMSK/CSR-05/029d/SAND-Gradation/2016-17 : 05.05.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N.M. Shiva Kumar,**
#7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.

*** Name of Work** : Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 03.05.2016

Date of Testing : 05.05.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.50	90-100	90-100	90-100	95-100
2.36	77.60	60-95	75-100	85-100	95-100
1.18	56.60	30-70	55-90	75-100	90-100
600 Micron	28.60	15-34	35-59	60-79	80-100
300 Micron	14.10	5-20	8-30	12-40	15-50
150 Micron	5.60	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/W.No.10/NMSK/CSR-05/029d/AGG/GR/2016-17 : 05.05.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N.M. Shiva Kumar,**
#7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.

*** Name of Work** : Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 03.05.2016

Date of Testing : 05.05.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.21	95-100	85-100
20	35.79	30-70	0-20
10	13.50	10-35	0-5
4.75	2.07	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.10/NMSK/STEEL/2016-17 10.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. N.M. Shiva Kumar,** #7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.
Name of the Work	:	Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016
Date of Test	:	10.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	510	552	13.10	O.K	O.K

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.10/NMSK/STEEL/2016-17 10.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. N.M. Shiva Kumar,** #7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.
Name of the Work	:	Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016
Date of Test	:	10.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	513	557	13.35	O.K	O.K

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Job No.: CTCE/BBMP/W.No.10/NMSK/CSR-05/029d/CUBE/2016-17 10.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N.M. Shiva Kumar,**
#7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.

*** Name of the work** : Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Reference** : EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016

*** Sample ID** : RCC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 10.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	13.05.2016	10.06.2016	8.115	478.3	21.26
2	13.05.2016	10.06.2016	8.269	512.3	22.77
3	13.05.2016	10.06.2016	8.347	520.2	23.12

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Job No.: CTCE/BBMP/W.No.10/NMSK/WMM/Gradation/2016-17

06.06.2016

GRADATION FOR WMM

MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. N.M. Shiva Kumar,**
#7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.

Name of Work : Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016

Date of Testing : 06.06.2016

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **8455**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	225	225	2.7	97.3	95-100
22.4	2550	2775	32.8	67.2	60-80
11.2	1450	4225	50.0	50.0	40-60
4.75	1090	5315	62.9	37.1	25-40
2.36	990	6305	74.6	25.4	15-30
0.600	960	7265	85.9	14.1	8-22
0.075	680	7945	94.0	6.0	0-8

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Job No.: CTCE/BBMP/W.No.10/NMSK/SDBC/Bitumen/2016-17 13.06.2016

BITUMEN DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC : SP : 11 - 1984

CUSTOMER	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. N.M. Shiva Kumar,** #7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.
NAME OF THE WORK	Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016
SAMPLE I/D	Roads in Chamundeshwarinagar Layout Ward No.10.
DATE OF TESTING	13.06.2016

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	474
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25	26.00
7. Bitumen content in %	5.00	5.20
8. Average	**5.10**	

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Job No.: CTCE/BBMP/W.No.10/NMSK/SDBC/Bitumen/2016-17 13.06.2016

GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS : 2386 and IRC : SP : 11 - 1984

CUSTOMER	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. N.M. Shiva Kumar,** #7, 2nd Bock, Juganahalli, Rajajinagara, Bangalore.
NAME OF THE WORK	Improvements to roads and drains of Somanna Matta road in Chamundeshwari Layout in Ward No.10 (Doddabommasabdra), Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/304/2015-16 Dated: 23.03.2016
SAMPLE I/D	Roads in Chamundeshwarinagar Layout Ward No.10.
DATE OF TESTING	13.06.2016

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	26.36	5.55	5.55	94.45	90-100
4.75	256.3	53.96	59.51	40.49	35-51
2.36	52.36	11.02	70.53	29.47	24-39
1.18	50.23	10.57	81.11	18.89	15-30
0.3	30.21	6.36	87.47	12.53	9-19
0.075	36.32	7.65	95.11	4.89	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	28.56	6.03	6.03	93.97	90-100
4.75	261.3	55.13	61.15	38.85	35-51
2.36	52.32	11.04	72.19	27.81	24-39
1.18	42.32	8.93	81.12	18.88	15-30
0.3	26.31	5.55	86.67	13.33	9-19
0.075	30.22	6.38	93.04	6.96	3-8

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